

Claims 1-34 are cancelled.

35. (new) A thermal energy distribution system for supplying several buildings with thermal service, wherein  
5 at least two of said buildings being fully detached from each other, and wherein said system comprises:

a branching station;

several conduits each forming an essentially unbroken connection from said branching station to a thermal  
10 connection in or close to each said building, each conduit being flexible and having essentially the same cross-section over the entire length thereof; and

15 at least two of said conduits extending essentially adjacent to each other over a first portion (CONa), and extending to each building over a third portion (CONc) and having a second portion (CONb) forming a transition between said first and third portion.

36. (new) The system of claim 35, wherein at least one group of said first portions (CONa) of said conduits  
20 extends within or along a street.

37. (new) The system of claims 35, wherein said conduits are essentially thermally un-insulated, thermal insulation being arranged around said conduits.

25 38. (new) The system of claims 35, wherein said conduits comprise thermal insulation being arranged as at least one part of said conduits.

30 39. (new) The system of claim 35, wherein at least one of said conduits is made with one or more channels for leading fluid flow, said channel(s) being formed within said conduit that is either fully polymeric or mainly polymeric, in the latter case being provided with at least one metallic membrane arranged to prevent gas diffusion across a said pipe.

35 40. (new) The system of claim 35, wherein at least one of said conduits is made with one or more channels for

leading fluid flow, said channel(s) being formed within said conduit that is either fully metallic or mainly metallic, in the latter case with one or more polymeric layers on the inside and / or on the outside of the 5 metallic part, the metallic part providing the main mechanical strength of said conduit.

41. (new) The system of claim 39, wherein said at least one conduit is prefabricated in the form of an integrated polymeric structure being fabricated from the 10 same base material and in a simultaneous manufacturing process.

42. (new) The system of claim 35, wherein the outer shape of said conduits is circular.

43. (new) The system of claim 35, wherein the outer 15 shape of said conduits is square, rectangular, or hexagonal, whereby voids between the conduits can be minimized when they are arranged adjacent to each other.

44. (new) The system of claim 35, wherein said transitional portions (CONb) of said conduits are curved 20 with a minimal radius of curvature that is at least 10 times the cross-sectional size of said conduit, taken in the direction of said radius, said size in the case of a circular shape of said conduit being the diameter of said conduit.

25 45. (new) The system of claim 44, wherein said radius of curvature is instead less than ten times said cross-sectional size.

46. The system of claim 35, wherein said first portion (CONa) of said adjacent conduits being arranged 30 within a casing.

47. (new) The system of claim 46, wherein said casing is formed mainly by blocks of insulating material.

48. (new) The system of claim 47, wherein said insulation blocks are made of a polymeric material to form 35 either of the following material structures:

a permeable structure made up of coherent, small elements, or

an impermeable, relatively stiff structure of mainly closed cells, or

5 an impermeable, relatively flexible structure of mainly closed cells,

such that either all said blocks are formed to be of the same type of structure, or there is a combination of blocks made of differing structures.

10 49. (new) The system of claim 48, wherein at least one part of said conduits is arranged within grooves made either directly as parts of said blocks or by addition of further system elements.

15 50. (new) The system of claim 49, wherein said second portions (CONb) of conduits are either inserted into curved parts of said grooves according to claim 49 or are inserted into supportive structures that lead said conduits along predetermined curves.

20 51. (new) The system of claim 50, wherein said second portions (CONb) of said conduits, when being arranged to be curved, are arranged within a structure provided with a solid boundary that allows for some deformation of the cross-section of the conduit, but prevents deformation beyond a certain, predetermined limit in order that local 25 over-deformation that may compromise the structure of the conduit can be avoided.

52. (new) The system of claim 35, wherein thermal insulation of said conduits is made in the form of super-insulation comprising a vacuum between either gas 30 impermeable foils and/or grains and/or open-celled insulation material contained within a structure that is substantially gas-tight towards the surroundings, said vacuum to be established, either prior to said conduits being arranged underground or afterwards, said structure 35 either being of such stability that a vacuum can be

maintained for at least five years without any additional measures, or said vacuum to be intermittently re-established and/or continuously upheld by having a vacuum pump in connection with said vacuum, and/or said vacuum to be continuously upheld by having a getter material being distributed throughout said vacuum, thereby removing from the vacuum molecules that will tend to otherwise degrade said vacuum.

53. (new) The system of claim 35, wherein buildings  
10 are connected to a forward line of said conduits, leading fluid flow to said building and a return line leading fluid flow from said building.

54. (new) The system of claim 53, wherein buildings are additionally connected by at least one further line of  
15 said conduits, leading hot service water to a said building, said hot water being prepared commonly for supply to all said buildings connected to a said branching station.

55. (new) The system of claim 54, wherein said system  
20 is provided with circulation of hot service water taking place within at least two said lines for each said building, and that in at least one said line the flow can be reversed to temporarily flow in the opposite direction of re-circulation, to said building instead of from said  
25 building.

56. (new) The system of claim 54, wherein four or more lines of fluid flow flowing in said conduits are connected to the said buildings.

57. (new) The system of claim 35, wherein building  
30 heating and / or cooling systems of said buildings are connected directly to said conduits, i.e. without heat exchangers for hydraulical separation.

58. (new) The system of claim 57, wherein said branching station comprises a fluid flow leakage detecting  
35 system and valves for closing a hydraulical loop for

transferring one or more fluids into a building heating and / or cooling system in case of a leakage of said loop being detected.

5 59. (new) The system of claim 35, wherein heat metering for accounting for the amount(s) of thermal supply to each building is made inside or adjacent to a said branching station.

10 60. (new) The system of claim 35, wherein one or more hydraulical lines leading fluid flow to said branching station is provided with a turbine that can supply mechanical energy and/or electrical energy to at least one pump and/or control equipment and/or metering equipment and/or further units, all arranged within or adjacent to a said branching station, said electrical energy, when 15 provided for, being generated in a dynamo driven by said turbine.

61. (new) The system of claim 35, wherein said flexible conduits are supplied to a building site mounted on one or more rolls.

20 62. (new) The system of claim 35, wherein said conduits, being flexible, when arranged underground are rolled out from at least one movable roll being part of said apparatus, such that the part of at least one said conduit being arranged at a given moment is situated 25 relatively close to said at least one roll.

63. (new) The system of claim 62, wherein said at least one roll is adapted to be supplemented by one or more tools for arranging said conduits precisely into their final, intended positions underground.

30 64. (new) The system of claim 63, wherein that a group of said conduit first portions (CONa) are rolled out simultaneously from a single said roll.

35 65. (new) The system of claim 62, wherein said conduits, when being rolled out have been heated to and/or maintained at a material temperature of said conduit that

is at least room temperature, at least around 20 degrees Centigrade.

66. (new) A method for constructing a thermal energy distribution system for supplying several buildings with  
5 thermal service, wherein at least two of said buildings being fully detached from each other, said system comprising a branching station; said method comprising:

arranging several conduits each forming an essentially unbroken connection from said branching station  
10 to a thermal connection in or close to each said building, each conduit being flexible and having essentially the same cross-section over the entire length hereof, and

arranging at least two of said conduits for extending essentially adjacent to each other over a first portion  
15 (CONa), and extending to each building over a third portion (CONc) and having a second portion (CONb) forming a transition between said first and third portion.

67. (new) The method of arranging said conduits according to claim 66, wherein said transitional conduit  
20 portions (CONb), when being bent are heated to attain a material temperature of the said portion that is at least room temperature, at least around 20 degrees Centigrade.

68. (new) The method of claim 66, further comprising:  
arranging at least one group of said first portions  
25 (CONa) of said conduits for extending within or along a street.